XXIX IFSO World Congress

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LONG TERM COMPARISON OF GASTROESOPAHGEAL REFLUX AND TYPE 2 DIABETES OUTCOMES BETWEEN NISSEN SLEEVE AND SLEEVE GASTRECTOMY

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TORONTO2026

The Future of Obesity Management:
From Weight Loss to Health Gain

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Disclosure

Nothing to disclose

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Comparative Study between the Nissen Sleeve and the Sleeve
Type 2 diabetes, Gastroesophageal reflux disease, Long-term weight loss

THESIS FOR THE DEGREE OF DOCTOR OF VISCERAL AND DIGESTIVE SURGERY

Dr. ANAÏS PRELOT-CLAUDON

JUNE 20, 2025

President Pr David NOCCA **- Director** Dr Saad JOUMAA

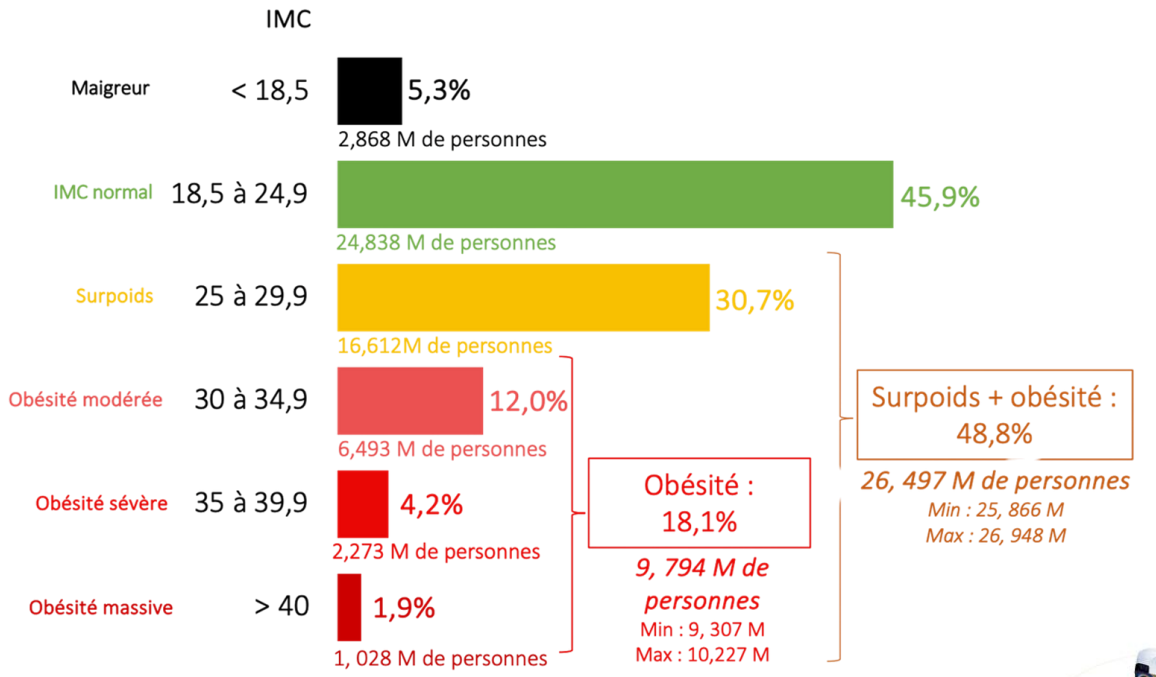
TORONTO2026 The Future of Obesity Management: From Weight Loss to Health Gain

Epidemiology

Prevalence of Diabetes in 2022

- 830 million worldwide
- 4.3 million in France
- 90% Type 2 diabetes

Prevalence of overweight and obesity in France in 2024



Etude OFEO 2024, Ligue contre l'obésité OMS / Santé Publique France 2024

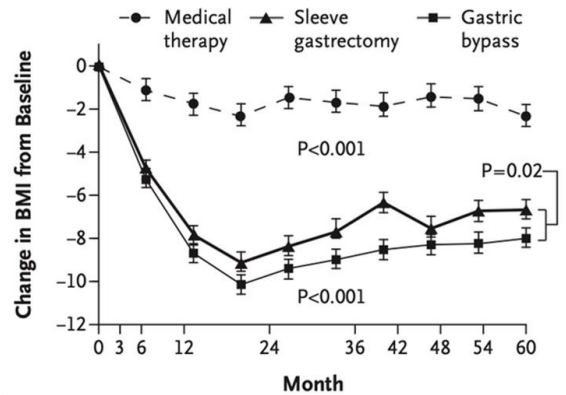
ORIGINAL ARTICLE

Bariatric Surgery versus Intensive Medical Therapy for Diabetes — 5-Year Outcomes

Authors: Philip R. Schauer, M.D., Deepak L. Bhatt, M.D., M.P.H., John P. Kirwan, Ph.D., Kathy Wolski, M.P.H., Ali Aminian, M.D., Stacy A. Brethauer, M.D., Sankar D. Navaneethan, M.D., M.P.H., Rishi P. Singh, M.D., Claire E. Pothier, M.P.H., Steven E. Nissen, M.D., and Sangeeta R. Kashyap, M.D., for the STAMPEDE Investigators* Author Info & Affiliations

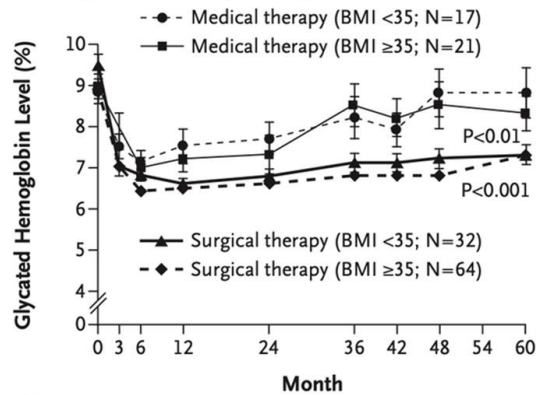
Published February 16, 2017 | **N Engl J Med 2017;376:641-651** | **DOI: 10.1056/NEJMoa1600869** | **VOL. 376 NO. 7**

C Body-Mass Index



Mean Value at Visit						
Medical therapy	36.4	34.1	35.0	34.8	35.1	34.0
Gastric bypass	37.0	26.9	27.4	28.2	28.6	28.9
Sleeve gastrectomy	36.0	26.9	27.7	28.1	28.2	29.3

D Glycated Hemoglobin According to Body-Mass Index



Mean (median) Value at Visit						
Medical <35	8.8 (8.9)	7.5 (6.9)	7.7 (7.4)	8.2 (7.9)	8.8 (8.6)	8.8 (8.0)
Medical ≥35	8.9 (8.5)	7.2 (6.5)	7.3 (6.8)	8.5 (7.1)	8.5 (8.2)	8.3 (8.0)
Surgical <35	9.5 (9.1)	6.6 (6.7)	6.8 (6.8)	7.1 (6.7)	7.2 (6.8)	7.3 (7.1)
Surgical ≥35	9.4 (9.2)	6.5 (6.2)	6.6 (6.4)	6.8 (6.6)	6.8 (6.5)	7.3 (7.1)

SUMMARY

1- Indications and surgical techniques

2- Materials and methods

3- Objective

4- Results

5- Discussion

6- Conclusion

1- Indications and surgical techniques

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BMI ≥to 40 kg/m²

BMI 35 - 40 kg/m² associated with a severe comorbidity likely to improve after surgery

BMI between 30 and 35 kg/m² with uncontrolled type 2 diabetes

HAS *Obésité de l'adulte HAS 2024*

Surgical techniques / Nissen Sleeve

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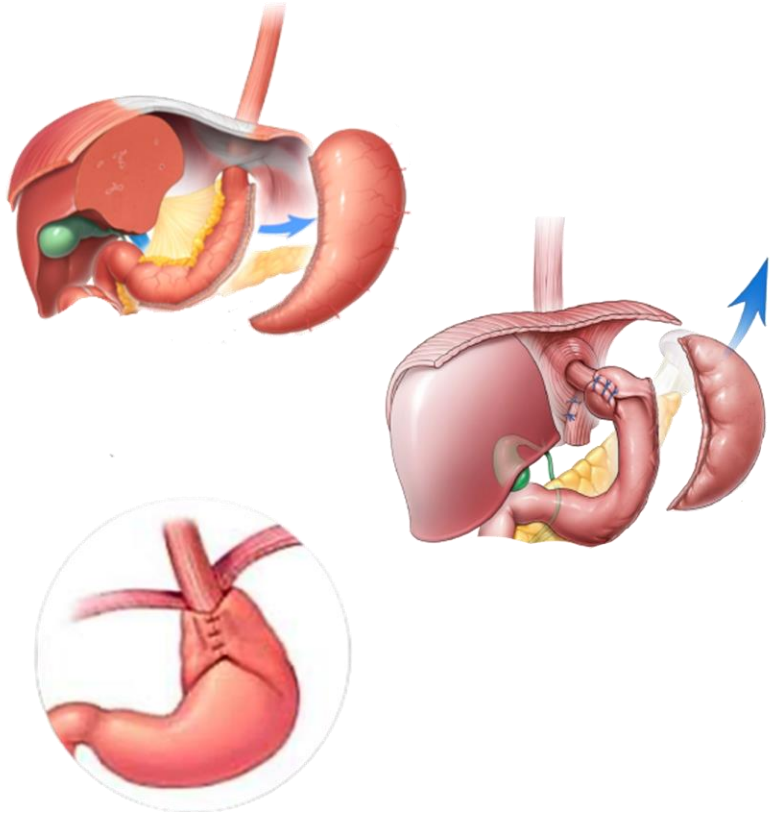
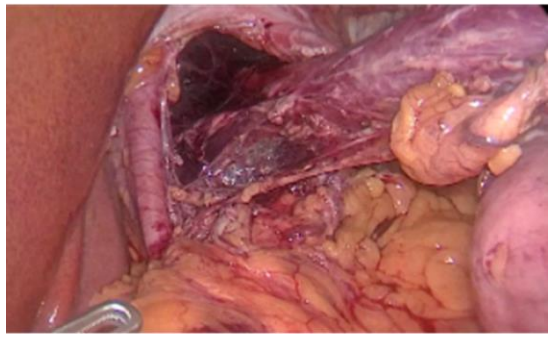
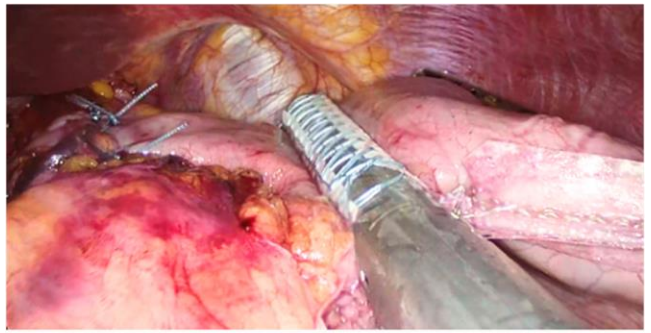
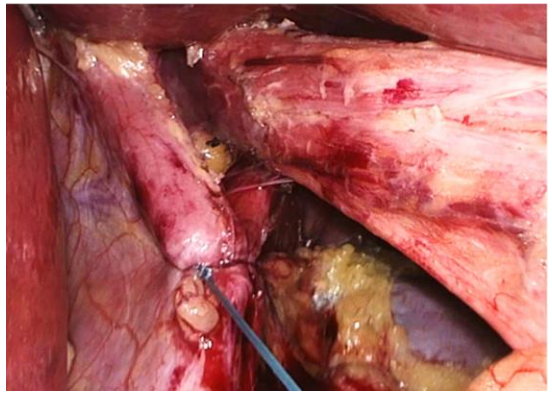
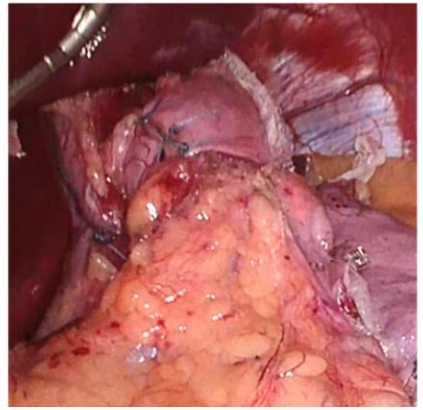










2- Materials and methods

- Prospective single-center cohort, derived from BAREVAL (2012)
- Sleeve gastrectomy & Nissen Sleeve gastrectomy at Montpellier University Hospital (CHU) between 2017 and 2019 & 2018 and 2019
- Standardized surgical techniques

J Laparoendosc Adv Surg Tech A. 2020 Nov;30(11):1231-1236. doi: 10.1089/lap.2020.0651. Epub 2020 Sep 21.

The Nissen Sleeve Gastrectomy: Technical Considerations

David Nocca [1], Marius Nedelcu [2], Marcelo Loureiro [1 3], Mariano Palermo [4], Martha Silvestri [1], Audrey de Jong [1], Almino Ramos [5]

- Data collection: phone calls in case of missing data
- Standardized postoperative follow-up :
  1 month, 6 months, 1 year, 2 years, 3 years, 4 years, and 5 years

3- Objective

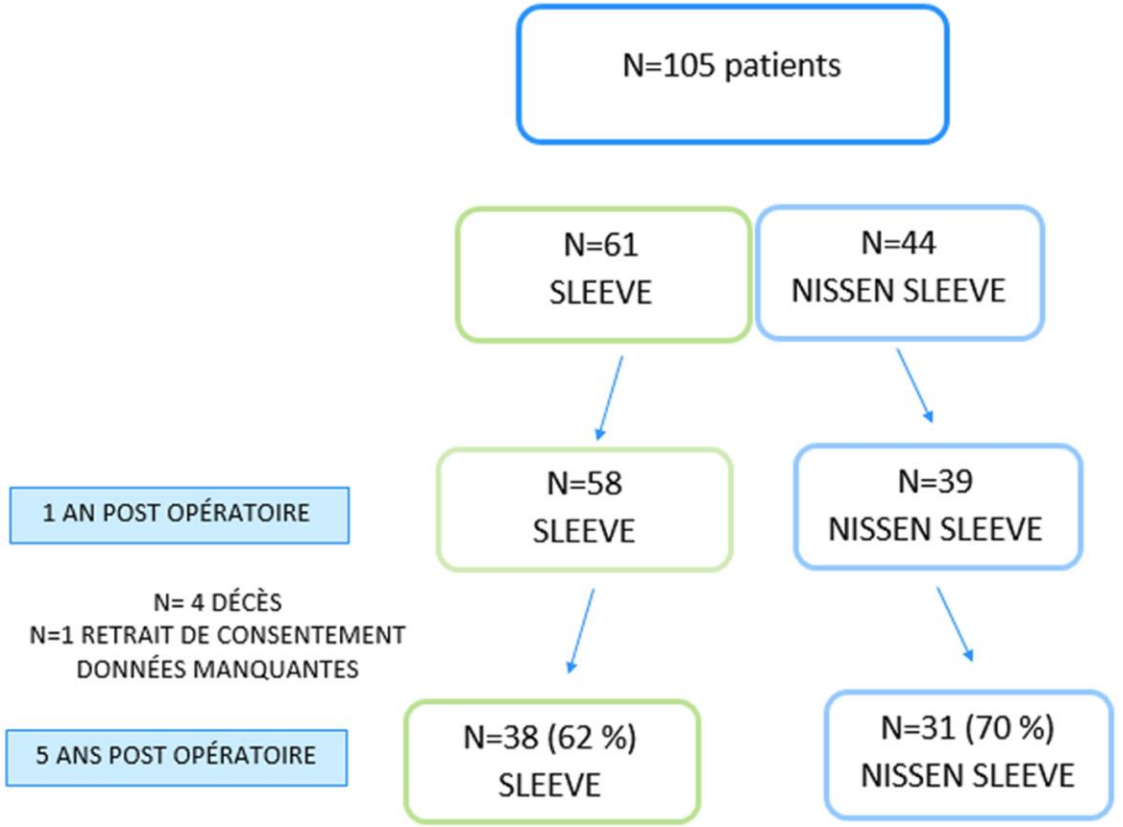
Co-objectifs principaux	Critère de jugement
Efficacité sur le poids	Perte de poids totale à 5 ans
Efficacité sur le diabète	Amélioration du diabète à 5 ans(1)
Efficacité sur le reflux	Taux de résolution du RGO à 5 ans
Amélioration du diabète : rémission du diabète ou arrêt de l'insulinothérapie	

Objectifs secondaires	Critères de jugement secondaires
Efficacité sur le poids	Perte de poids totale à 1 et 2 ans
	Perte de BMI à 1, 2 et 5 ans
	% EWL à 1, 2 et 5 ans
	% EBMIL à 1, 2 et 5 ans
Efficacité sur le diabète	Diminution du taux d'HbA1c à 1, 2 et 5 ans
	Réduction du nombre des traitements médicamenteux à 1, 2 et 5 ans
Efficacité sur le reflux	Reflux de novo à 5 ans
Sécurité	Durée d'intervention
	EIG à 5 ans
	Complications ayant nécessité une réintervention bariatrique à 5 ans

Inclusion

Follow Up Rate:

65 %

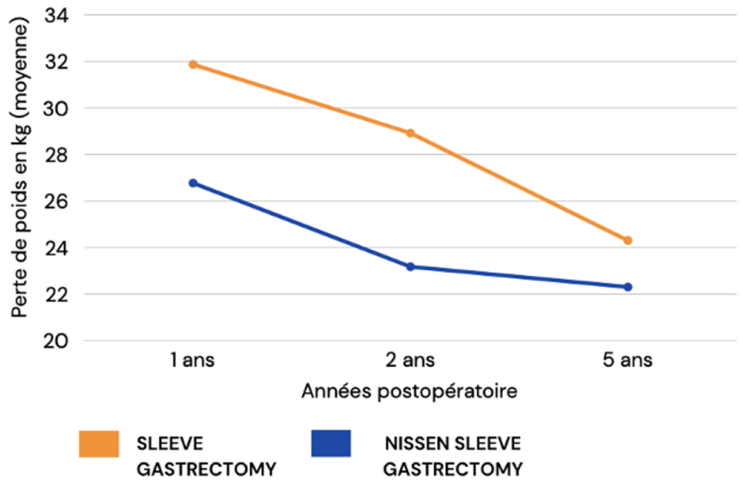


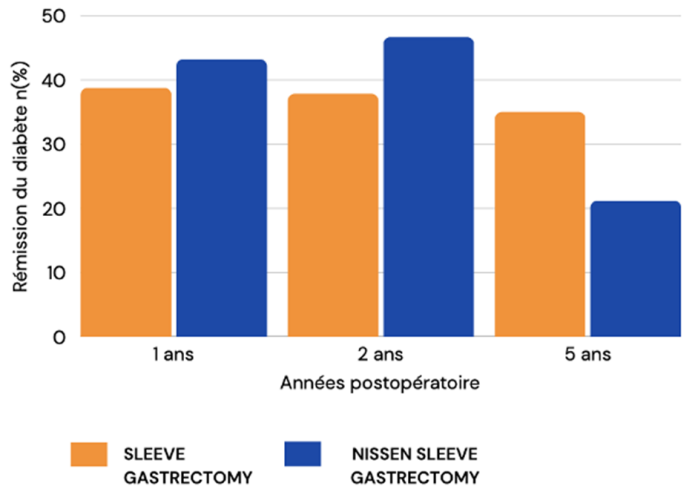
Population

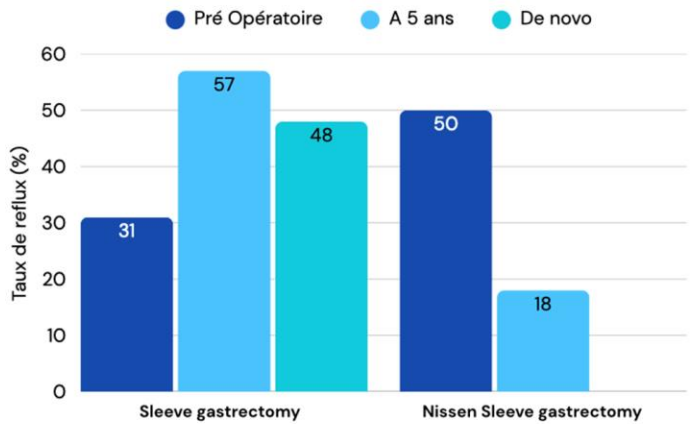
	Sleeve N = 61	Nissen Sleeve N=44	Sous groupe Sleeve a 5 ans N= 45	Sous groupe Nissen Sleeve a 5 ans N=36	P*
Caractéristiques cliniques					
Sexe (femme) n (%)	30/61 (49.2%)	24/44 (54.6%)	21/46 (45,7%)	19/36 (52,8%)	0.52
Age médian, années (IQR)	55.0 (49.0;64.0)	56.0 (48.0;60.5)	55.0 (48.0; 64.0)	56.5 (50.0 ; 61,5.0)	0.86
Poids préopératoire médian, kg (IQR)	124.0 (108.0;137.0)	114.0 (102.5;124.0)	120.0 (108.0;135.0)	114.0 (102.0;124.5)	0.11
IMC préopératoire médian, Kg/m2 (IQR)	43.2 (39.3;46.2)	41.1 (37.1;43.6)	42.3 (38.9;45.4)	40.2 (36.5;43.6)	0.03
Diabète	N=61	N=44	N=38(62.3%)	N=31(70.5%)	
Durée médiane DT2, années (IQR)	3.0 (1.0;13.0)	4.0 (1.0;10.0)	3.0 (1.5 ; 9.5)	6.0 (1;0 . 13.0)	0.85
Age médian au diagnostic, années (IQR)	48.0 (41.0;54.0)	50.0 (42.0 ; 55.0)	49.0 (44,5 ; 55.0)	50.0 (42.0 ; 56.0)	0.70
Traitement par Insuline préopératoire, N (%)	17/61 (27.9%)	8/ 44 (18.2%)	10 / 38(26.3%)	6/31 (19.4%)	0.50
Traitement par antidiurétique autre que insuline, N (%)	50/ 61 (81.9%)	36/ 44 (81.8%)	29 /38 (76.3 %)	27/31 (87.1%)	0.25
Nombre médian d'antidiabétique (IQR)	1.0 (1.0;2.0)	1.0 (1.0;2.5)	1.0 (1.0 ; 2.0)	2.0 (1.0 ; 3;0)	0.04
Hba1c préopératoire médiane , % (IQR)	7.2 (6.7;8.3)	7.0 (6.2;8.2)	7.2 (6.7 ; 7.9)	7.2 (6.6 ; 8.4)	0.91
GERD					
RGO clinique(%)	19/60 (31.7%)	22/44 (50%)	12/37 (32.4%)	16/32 (50%)	0.14
Prise IPP(%)	28/61 (45.9%)	20/44 (45.5%)	15/38 (39.5%)	15/32 (46.9%)	0.53
Oesophagite (%)	5/ 53 (9.4%)	14 / 43 (32.6%)	2/11 (18.2%)	3/ 10 (30.0%)	0.64
Hernie hiatale (%)	3 / 53 (5.7%)	10 / 43 (23.3%)	0 / 11 (0%)	2 /10 (20.0%)	0.21

4- Results

	Sleeve n=45	Nissen Sleeve n=36
Poids		
Perte de poids a 5 ans, kg (moy, SD)	24.3 (±10.9)	22.3 (±11.4)
Perte de poids a 1 an, kg (moy, SD)	31,9 (±18,1)	26,7 (±9,3)
Perte de poids a 2 ans, kg (moy, SD)	**28,9 (±11,9)**	**23,1 (±11,2)**
%TWL a 5 ans, (moy, SD)	20.1 (±8.2)	19.6 (±9.8)
%EWL a 5 ans, (moy, SD)	43.1 (±18.5)	44.7 (±22.4)
%EBMIL a 5 ans, (moy, SD)	51.0 (±23.2)	54.5 (±28.1)
Diabète		
Remission a 5 ans, n/N (%) (Critère principal)	**14/40 (35.0%)**	**7/33 (21.2%)**
Remission a 1 an, n/N (%)	19 (38.78)	16 (43.24)
Remission a 2 ans, n/N (%)	14 (37.84)	7 (46.67)
HbA1c a 5 ans, (moy, SD)	6.5 (±1.1)	6.3 (±0.8)
Evolution HbA1ca 5 ans, (moy, SD)	-1.03 (±1.43)	-1.28 (±1.47)
Insuline a 5 ans, n/N (%)	5/38 (13.2%)	1/31(3.2%)
Reflux gastro oesophagien		
Reflux clinique a 5 ans n/N (%)	22/38 (57.9 %)	6/32 (18.8%)
Rémission clinique du RGO a 5 ans, n/N(%) (Critère principal)	**3/12 (25%)**	**10/16 (62.5%)**
Reflux clinique de novo a 5 ans, n/N(%)	12/25 (48.0 %)	0/16 (0.0 %)
Oesophagite, n/N (%)	3/11 (27.3%)	1/10 (10.0%)
Hernie hiatale, n/N (%)	4/11(36.4%)	0/10 (0.0%)


Perte de poids en kg (moyenne)
34
32
30
28
26
24
22
20
1 ans
2 ans
5 ans
Années postopératoire
SLEEVE GASTRECTOMY
NISSEN SLEEVE GASTRECTOMY


Rémission du diabète n(%)
50
40
30
20
10
0
1 ans
2 ans
5 ans
Années postopératoire
SLEEVE GASTRECTOMY
NISSEN SLEEVE GASTRECTOMY


Pré Opératoire
A 5 ans
De novo
Taux de reflux (%)
60
50
40
30
20
10
0
31
57
48
50
18
Sleeve gastrectomy
Nissen Sleeve gastrectomy

Early Complications < 30 Days

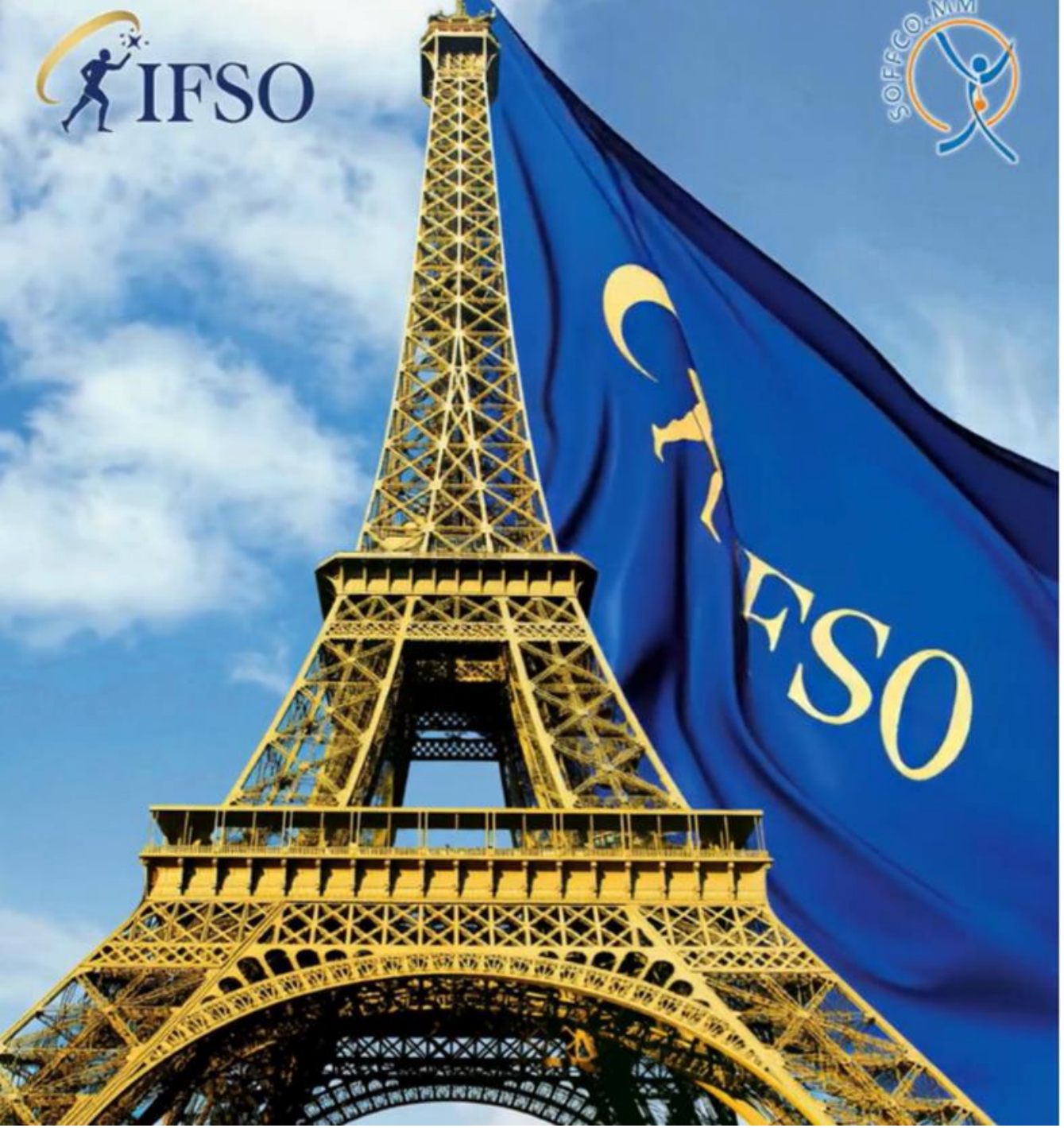
	Sleeve Gastrectomy				*Nissen sleeve Gastrectomy*			
	N	**onset**	**CD**	**Management**	**N**	**onset**	**CD**	**Management**
Emergency surgery								
Peritonitis	1 fistula	6 D	3b	Drainage	2 wrap perforation	10 M	3b	Drainage
						4 D	3b	Wrap ablation + Drainage
Hemorrhage	2	1 D	4	Drainage	2	1 D	3b	Surveillance
		4 D	3b	Drainage		10 D	3b	Drainage
Total patients	**3**				**4**			

6- Conclusion

- Nissen Sleeve superior to Sleeve gastrectomy in terms of GERD remission.

  62.5% remission rate with no de novo reflux.

- Both techniques equivalent in terms of weight loss and type 2 diabetes remission.



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